

FALL 1972

OUR PUBLIC LANDS

GOOD FOR 5 STICKS OF POWDER

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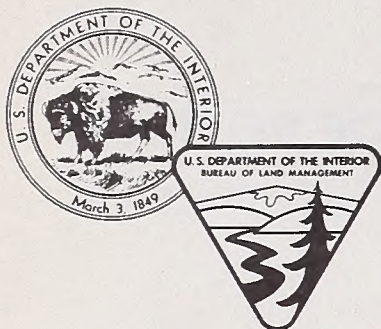
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U.S. DEPARTMENT OF THE INTERIOR
Rogers C. B. Morton, Secretary

BUREAU OF LAND MANAGEMENT
Burton W. Silcock, Director

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

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Jim Robinson, Editor

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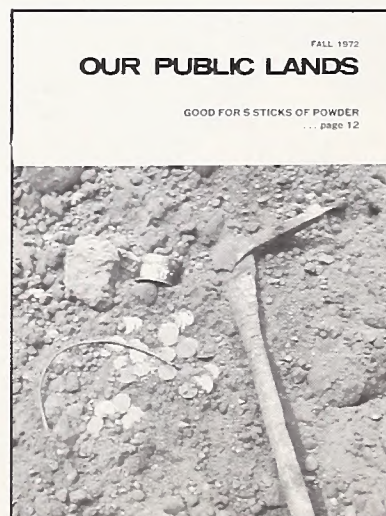
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THE COVER

In an almost forgotten era, these private coins, a vanishing vignette of American mining history, were Good For 5 Sticks of Powder. (Photo William C. Tarpun)

HIGHLIGHTS

Secretary Morton Takes the Cake

Secretary of the Interior Rogers C. B. Morton was presented with a birthday anniversary cake honoring the 4th birthday of Johnny Horizon, symbol of the thoughtful user of the public lands.

The Secretary received the cake at the annual meeting of the Outdoor Writers Association of America where the Johnny Horizon Program was launched in 1968.

Speaking to the Outdoor Writers meeting, Secretary Morton lauded the Johnny Horizon Program as a personal opportunity for every citizen to take responsibility for cleaning up the public lands instead of waiting for the Federal Government to do it.

Presenting the cake was Outdoor Writer President Bodie McDowell, outdoor editor of the Greensboro (North Carolina) Daily News and Record.

BLM Earns \$11 for Every Budget Dollar Allocated

The Bureau of Land Management administers far more land than any other Federal agency, and last year it returned \$11 to the Treasury for every budget dollar allocated, according to "Public Land Statistics," 1971 edition.

The new edition of the popular paperback is published for readers who need to have statistical information about Federal lands at their fingertips. The book is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, for 75 cents.

BLM Operated 6 YCC Camps

Six of the 95 Youth Conservation Corps camps operated this summer by the Departments of the Interior and Agriculture were managed by the Bureau of Land Management.

All of BLM's camps were coeducational and were divided about evenly between state residents and non-residents. The camp programs provided employment

for young men and women from the ages of 15 through 18 from all economic, ethnic, and social backgrounds.

Last year, the Bureau operated two camps. The YCC program is in its second year, and is designed to provide conservation employment on projects which are urgently needed to improve the quality of public lands and waters, to supply gainful summer employment for the Nation's youth, and to create a reserve of environmentally aware young people.

Silcock Describes Bureau's Efforts to Provide Recreation on Public Lands

Lands administered by the Bureau of Land Management are in an intermediate position between city parks and the national forests in terms of public recreational use, BLM Director Burton W. Silcock told the Western Natural Resource Conference.

Silcock described the Bureau's efforts to supply outdoor recreation while preserving other land resource values. He spoke during the conference's annual meeting at Colorado State University in Ft. Collins.

No matter what the recreation use by a pleasure-seeking public, some type of environmental degradation results which creates conflicts with conservation groups, he said.

The Bureau is coordinating its efforts with other Federal and State units of government to solve the problems and conflicts involving the recreational use of public land, Silcock said.

25 States Share Public Land Revenues

More than \$31 million has been distributed among 25 states that share in funds from Federal lands managed by the Bureau of Land Management, Secretary of the Interior Rogers C. B. Morton has announced. The money came from mineral leasing revenues, grazing leases, and sales of public lands during the 6-month period that ended June 31, 1972.

With the exception of Alaska, each state having public lands receives semi-annual payments of 37.5 percent of Federal revenues collected within that state from mineral leasing bonuses, rentals, and royalties. Alaska, under its Statehood Act, receives 90 percent of mineral leasing revenues.

A final accounting of timber revenues from the re-vested Oregon and California railroad lands during fiscal year 1972 showed that 18 western Oregon counties received more than \$37.6 million as their share.

An earlier payment, based on 11 months of collections, was made to provide counties with information needed to plan their budgets.

YUHA MAN PUSHES BACK FRONTIER OF KNOWLEDGE

Unexpected desert wealth is in artifacts

A SKELETON which may become established as the oldest human remains found in the Western Hemisphere has been discovered in California's Yuha Desert by Morlin Childers of El Centro.

Childers found a nearly complete skeleton in a shallow rock-covered grave about 30 miles west of El Centro. The discovery is in the Imperial Valley on land administered by the Bureau of Land Management. Expert carbon 14 dating by Geochron Laboratories in Cambridge, Mass., indicates that the remains are about 21,500 years old—plus 2,000 or minus 1,000 years.

Carbon 14 dating is a scientific measurement of the amount of radiation still present in material. The amount remaining establishes the age which is then expressed in plus or minus years because precise dating of very old material is not possible without this fudge factor.

Earlier, a bone from a woman found in the La Brea tar pits in Los Angeles was tentatively dated as being about 23,000 years old, but closer dating was hampered by insufficient material.

The remains of a man found in Peru were dated as being 17,500 years old. Previous to the La Brea and Peruvian finds, there was little scientific evidence to indicate that man inhabited the Western Hemisphere before 10,000 to 15,000 years ago.

Evidence has begun to build that ancient man may have occupied the North American continent for a much longer period, perhaps as far back as the time when animals entered the continent over a then-existing land bridge from Siberia which is believed to have existed as long ago as 100,000 years.



Because ancient man may have followed the animals from north to south on this continent, under the authority of the Antiquities Act of 1906, BLM is cooperating in a surveillance archaeology project to protect public lands along the route of the proposed north-south oil pipeline in Alaska.

Childers said that the age estimate for the Yuha man is based on one sample of caliche, or calcium carbonate material, deposited on one of the bones. The caliche might be younger than the human remains, having been deposited on the bones after death, or it might be older. The latter could be the case if a nearby older deposit of calcium carbonate was washed to the grave, but this does not appear to be what happened.

Additional tests to check the age of the remains are underway. Two additional samples of caliche from the remains have been sent to the eastern laboratory for Carbon 14 dating. Caliche from boulders in the grave have been sent to Japan for similar tests. In addition to these tests, Dr. James Bishoff of the University of Southern California is doing thorium dating.

By TOM EVANS

Information Specialist
BLM State Office, Sacramento, Calif.

Childers said that the results of Dr. Bishoff's work will not be known for 60 to 90 days. He added that no thorium dating will be possible unless the material is 20,000 years old or older.

At the same time, the University of Arizona is making a physical anthropological study of the remains.

Childers is a real estate man and lay archaeologist who is serving as a consultant to the Imperial Valley College. The school's archaeological department excavated the site of the Yuha man as well as the site of another ancient human burial discovered by Childers a year ago. The earlier find has been referred to as the "Truckhaven Man" and was Carbon 14 dated at about 5,000 years old.



The Truckhaven and Yuha Men, found in widely separated areas of Imperial County, were discovered at about 440 feet above sea level. Childers believes that this and supporting geological evidence indicate that an early people might have lived around a large inland lake in the Salton Sink or Le Conte Basin.

Both remains apparently were intentionally buried. Indications are that the bodies were placed in shallow depressions and covered with rocks. Both were laid on their sides in a somewhat fetal position. Spaces among the rocks long ago were filled in by materials deposited by wind and water.

The skeleton of the Yuha man had all but the pelvic region and lower leg bones intact.

"The vertebrae above the clavicle seemed to protrude forward more than in most skeletons that I have seen," Childers said, "but this might have been a deformity. The jaw bone was heavy—heavier than most."

Childers said the possibility of finding additional artifacts is very good and he described the area as "fantastic" in its wealth of artifacts—stone tools used

for pounding, cutting, and digging. He said caliche from one heavy stone digging tool is being dated.

"I don't believe that there is any place in the West to compare with the number of artifacts and the age of artifacts," Childers said, "but there is a great need to protect them. The only protection they have now is that the public does not recognize them as artifacts."

Childers encouraged recreation visitors to the desert not to disturb interesting or odd formations of rock. He suggested that such finds be reported to responsible authorities of BLM or the Imperial Valley College.

The college's anthropology department excavated both Truckhaven Man and Yuha Man. The careful trenching and sifting of extremely small portions of a find in a charted order often preserve fossils and artifacts of an antiquities site which indiscriminate examination by a curious but unknowing recreationist might destroy.

Oddly enough, the Yuha Man find was such a surprise that an officer of the local coroner's office was invited to have a look to make sure the skeleton was not that of a recent human.

Childers pointed out that there is a need to set aside and preserve some of the man-made rock structures in the vicinity of a new freeway which is to be constructed on the west side of Salton Sea.

The area where Childers found the Truckhaven Man is privately owned and has been leased by Imperial County to protect the site. Childers himself leased it for a year until he interested the county in taking over.

He is concerned about damage to other possible burial sites and artifact areas in BLM areas.

"Hundreds of visitors from the coast come every week, making a race track of the area, cutting trails 6 to 12 inches deep," he said. "Vehicles displace boulders and dirt in a path 2 or 3 feet wide."

"Even when you are familiar with the difference between natural rock formations and human-placed rocks in the cairns, it is difficult to recognize the burial places. When these are disturbed or covered by vehicles, the ability to discern them is gone."

"If something isn't done soon to protect these areas, forget it. There won't be anything to save."

In California where the desert recreational opportunities have increased pleasure use 50 percent since 1968, 19 National Recreation Lands have been set aside.

California's BLM State Office has formally constituted a desert study plan to inventory the resources of the public lands and to build a comprehensive plan for the development, protection, and use of the region which comprises 17 million acres, including 12 million acres of public land. □

JOHNNY HORIZON'S SUPERSTARS



Karen and Jeff receive their Johnny Horizon wrist watches from BLM Representative Bill Bright of the Bakersfield District Office.

By ART DERBY

Outdoor Recreation Planner
BLM District Office, Bakersfield, Calif.

They're leaders in the anti-litter revolution

SINCE the Johnny Horizon program started in 1968, a growing number of conservation organizations all over the Nation have embraced the concept of pledging their group and individual efforts to clean up America's landscape. Superstars in this effort have been the California Outdoor Recreation League (CORL) and the Ridgecrest Improvement Committee (RIC).

The 1970 and 1971 annual nationwide Johnny Horizon Countryside Cleanup Days have seen these

organizations join hands in cleanup drives that have been as consecutively successful as any in the United States. RIC meets year-around to organize the annual Ridgecrest Johnny Horizon Countryside Cleanup.

During the cleanup weekend, RIC devotes most of its efforts to the private and public lands near Ridgecrest, and CORL coordinates with the Bureau of Land Management to pick up litter on the public lands surrounding this desert town.

Cash savings to the taxpayers from the 1970 and 1971 cleanup campaigns were more than \$100,000. A total of 1,630 individuals participated in the 1970 effort and 3,740 people helped in 1971.

For its contributions to the Ridgecrest cleanup and other California desert anti-litter programs, CORL was the recipient of the Department of the Interior's Conservation Service Award in 1970. For its leadership and full cooperation with BLM in 1971, RIC received the first Johnny Horizon Environmental Award presented in California.

The growth and progress of RIC has provided a nationwide model. The initial group numbered less than 10 people. The 1971 Committee had 26 permanent members representing businessmen, professionals, news media representatives, youth and civic group leaders,

housewives, and public officials representing City, County, State, and Federal levels. The population of Ridgecrest is about 15,000.

The Ridgecrest Improvement Committee was solely responsible for the initiation and completion of the highly successful 1971 "Mr. and Miss Johnny Horizon" contest. The Johnny Horizon program received extensive free publicity as a result of this campaign.

This new approach to publicizing the Johnny Horizon Program was a contest between 6th, 7th, and 8th grade students from 3 local schools. The selection of the winners was on the basis of the most tickets sold by a school homeroom. The students sold vote-tickets for 25 cents each, and the homeroom selling the most votes elected its candidates for the title of Mr. and Miss Johnny Horizon. Proceeds from the ticket sales went to the schools' student body treasuries to be used for environmental improvement projects.

Sixth graders Jeffery D. Lehman, 12, and Karen Karner, 11, were the nation's first Mr. and Miss Johnny Horizon. Jeff almost single-handedly won for his homeroom. He was top salesman, selling 739 votes alone. The runner-up homerooms compiled 835 votes and 828 votes, respectively. A total of \$1,649 was raised by the 3 different schools.



4/16/72

Dear Mr. Bright,

I had no idea what a wonderful surprise was in store for me last week at the Ridgecrest Improvement luncheon. I have never had a watch before. It was such a special honor to receive the very first Johnny Horizon watch and I will treasure it always! I think the moving eyes are real cute. It was so nice of you to come so far to present it to me.

Thank you ever so much!

Sincerely,

Karen Karner

Miss Johnny Horizon

April 17, 1972

Dear Mr. Bright,

Thank you for the nice Johnny Horizon watch. I like it very much. Everybody has seen our watches almost, and if not, they heard of it. When I came back after the luncheon, I was surprised how fast the word got around the school and boy word proved to show the watch to them.

Thank you for everything.

I sure have had fun being the first Mr. Johnny Horizon.

Your friend,
Jeff Lehman

Since their election, Karen and Jeff have represented Ridgecrest in many activities. Dressed in their matching western "Johnny Horizon" attire, they participated as parade marshals in the 1971 cleanup, and in many other local and area public appearances. As Mr. and Miss Johnny Horizon, they attended a locally sponsored weekend in California's world renowned Disneyland. But even more important than the publicity, through this program, the youth and adults of a community became involved in environmental projects on both public and private lands. □



RIDGECREST—When Jeff sat down to pull on his boots, he found they didn't fit. Karen couldn't zip up her slacks.

Kids grow, and out-grown clothes are no surprise to parents.

This time, though, the boots and slacks were not everyday boots and slacks but part of the uniforms of Mr. and Miss Johnny Horizon.

The family that was amused by the out-growing was the Ridgecrest Improvement Committee, sponsor of Jeff Lehman and Karen Karner, who represented all Valley youngsters in a cleanup drive last fall.

Their story brought chuckles from the audience but not as many as the one Karen told. When she and Jeff were asked to sing a song ("This Land Is My Land") from the Johnny Horizon program, she warned that the performance might not be too perfect.

She said they'd give it a hard try, but "We haven't practiced in a long time. Jeff's voice has changed a little, and I've got braces on my bottom teeth."

—from the April 13, 1972

Daily Independent (Ridgecrest, Calif.)

People Like Johnny Horizon

In a decade of growing national environmental awareness, Johnny Horizon has become an accepted symbol of personal responsibility for anti-litter and the development of each individual's conservation ethic.

Johnny Horizon is each of us, all of us. The man of the land is symbolic of the thoughtful user of the public lands.

Tall, square-shouldered, long-striding, his slogan hits home while it provides everyone with an opportunity to participate in something important: "This Land Is Your Land. Keep It Clean!"

Entertainment industry figures have embraced the concept and given freely of their time and talent to tell the nation about Johnny Horizon.

The Bureau of Land Management originated the Johnny Horizon Program and it has since been made an official program of the Department of the Interior. Other Federal agencies have joined in, and wide public response has come from States, entire school systems, conservation organizations, and communities.

CHIEF TENDOY: PEACE AMBASSADOR



Smithsonian Institution photo.

*In death as in life, his white friends
honored him*

IN THE WESTERN shadow of the Continental Divide as it twists and turns along Idaho's northeastern border lies the grave of Chief Tendoy, who restrained his Lemhi braves from joining the Nez Perce war and for nearly a half century kept peace with honor between his tribe and his white friends.

Tin Doy (as his tribesmen called him) lies in a well-marked grave by a road built with the assistance of the Bureau of Land Management.

He came to his chieftainship in an aftermath of violence and an element of mystery still surrounds his death; rumors of foul play have not been stilled to this day.

Tendoy became chief in 1863 when his uncle, Chief Snag, a nephew of the Shoshone woman Sacajawea who guided Lewis and Clark, was murdered by a road agent named Buck Stinson at Bannack, Montana, a gold strike town.

Tendoy had been a war chief under his uncle when Chief Snag had befriended the Mormon colonizers who appeared in Lemhi country in 1855. The mortally wounded Chief Snag before his death chose Tendoy as his successor and exacted a promise from his young nephew to be always friendly to the whites.

Indicative of the lawless time in which Tendoy ruled and kept peace, Stinson bragged of shooting Chief Snag "just to add another notch" to his gun. The desperado was part of the Sheriff Henry Plummer gang hung by vigilantes in 1864. (See OUR PUBLIC LANDS, "Rigors of Robbers' Roost," Winter 1967.)

For 44 years Tendoy ruled the Lemhi until his death in 1907. During Tendoy's chieftainship, he cooperated with the Federal Government in the establishment of an Indian reservation in 1875, kept his braves from joining

By **WALTER JONES**

District Manager
BLM District Office, Idaho Falls, Idaho

the Nez Perce war in 1877, and from participating in various small wars in succeeding years.

Tendoy also kept the peace among his tribesmen in 1878 so that branch railroad lines could be built by the Utah and Northern Railroad Company to link with the just completed Union Pacific Railroad.

Then in 1880, the Chief travelled on that transcontinental railway to Washington, D.C., where on May 18 he signed a treaty providing for the transfer of the Lemhi tribe to another Indian reservation at Fort Hall, Idaho.

Congress pensioned Tendoy in 1892 for his assistance in keeping the peace and for his cooperation with the government in administering Indian matters.

Tendoy must not be thought to have been a "rubber stamp" chief who acquiesced in every wish of the Indian agents. On several occasions he resisted, sometimes successfully, attempts to get his people to forsake their ancestral customs and accept the ways of the white men.

Where most Indians recorded in history are those who gained their fame by their fighting ability or military strategy, Tendoy is remembered as a statesman and a diplomat. He realized from the example of his uncle that fighting the encroachment of the white settlers was folly, that relations with the invaders were most successful when accomplished by acts of leadership which halted short of war.

His statesmanship was tried early. When gold was discovered in 1866, white settlers flowed into the area in ever-increasing numbers, but Tendoy by constant tact and wisdom eased the tension caused by the invasion of the ancestral Indian lands.

His diplomacy was not without wit and humor. The chief had three wives of record, but the casual tall-tale telling of the West increased the number until it was reported that he had had as many as 50 at various times.

This report horrified religious leaders, and some sought the intercession of a State senator who is reported to have requested Tendoy to select a favorite and tell the others to leave.

Tendoy just grinned. "You tell 'em."

His reign of 44 years provided continual evidence of his leadership qualities as an executive with powerful decision-making capacity, a just administrator, and a shrewd but realistic negotiator. Only two years before his death, racked with rheumatic aches and partial paralysis, the old man so moved his followers with eloquent oratory that he persuaded them to accept the Government's order to move them to the newer Fort Hall Reservation.

Ironically, his very eloquence did Tendoy out of a full tribal attendance at his own funeral, for many of



The author and Snook at Tendoy's grave.

the Indian families had made the move before his death.

An old native-born settler, Charlie Snook, who was 91 at the time, retraced the area last winter and provided information about Tendoy as the area settlers had known him. He pointed out where the Chief's cabin had stood, and recounted the events leading to his death and the elaborate burial which was attended by white and Indians alike.

On the venerable Chief's last day, Tendoy rode horseback with his son Toopompey into the hills above the reservation. Conflicting reports make it difficult to determine what actually happened.

A newspaper report of the day alleges that Tendoy's white brother-in-law, Joseph Jefferies, accompanied the Indians and shared some whiskey with them. The newspaper article declared that the "white man's broth of hell" was responsible for Tendoy's death, that he fell into Agency Creek and drowned.



The Chief fell from his horse here on his last day.



Snook stands by the original site of the Chief's cabin. It now stands at the Boy Scout camp in Pocatello.

Snook maintained that no white man accompanied the Indians and that Tendoy was not a drinking man. The talk of the time hinted at foul play, but no investigation of the death was ever pursued beyond Jefferies' being fined \$100 for supplying whiskey to an Indian.

That Tendoy was respected by the white settlers is attested to by the flattering language of the newspaper account which labeled him "among the heroes of the ages."

Snook recalled how the funeral services were conducted by a tribal Indian with a reputation for oratory and by a Protestant clergyman, both of whom eulogized Chief Tendoy for helping to settle this portion of the West without bloodshed or strife.

Several hundred whites attended out of respect for the old Chief, but only several dozen Indians were present, the rest of the tribe already having moved onto the Fort Hall reservation.

The old Chief was fully bedecked in the ceremonial war regalia, including war paint, that he had shunned in life. War trophies from his youth and other treasured possessions were at hand: his war belt, peace pipe, a chain of beads, a chain of elk teeth. In his hand was an eagle's feathered wing befitting his status as a warrior and a chieftain.

After the eulogies, the white men were invited to pay their last respects and then leave to permit the Indians to conclude the funeral according to their own tribal customs.

The body of the Chief's son, dead some 10 years, had been disinterred as well as that of a favorite grandchild so that their remains could accompany the old man to his Happy Hunting Grounds. These were laid in the grave first, then the old man's body and his belongings were wrapped in blankets and lowered into the grave.

Area citizens subscribed funds to erect a monument over his grave which remains to this day. Snook occupied the Tendoy cabin for a time, and moved the cabin later to other land he owned. The original site was homesteaded and passed through several hands in succeeding years.

In 1969 an easement through the land made public access possible to the grave and monument. Lemhi County built the road, and the Bureau of Land Management helped by providing cattle guards for the two openings in the ranch fences and culverts for the crossing of Agency Creek and several irrigation ditches. Thus the public can visit the grave of the Indian Chief whom Snook called "one of the staunchest and best friends the people of Salmon River country ever had." □

GOOD FOR 5 STICKS OF POWDER

Private coinage was a necessity



TAMING the vast unexplored and unexploited public lands of the American West is a unique chapter in the history of this nation. The times and conditions demanded initiative and innovation, and the bordermen who dared Dame Fortune to deny them lacked neither quality.

A fascinating vignette of this western history is the almost forgotten system of private coinage which helped to prevent destruction of property in western mining labor strife and brought needed control to the use of explosives in hardrock mining.

Private coinage became a necessity because metal money was scarce on the frontier. The fur traders who opened up the West in the early 1800's had bartered trade goods and gimcracks for animal pelts because hard money had no value to the Indians.

Barter persisted among homesteaders, farmers, and grazers because money seldom came into their hands. To protect a scanty supply of hard money, which was difficult to transport in bulk because of its weight, banks issued their own banknotes.

By **WRIGHT SHELDON**

Mining Engineer
U.S. Geological Survey, Washington, D.C.

Early miners traded gold dust or gold nuggets for needed supplies.

The discovery of precious metal in the streams and on the steep slopes of the western mountains changed the face of the American West as dramatically as had the homesteaders, farmers, and grazers. Mining provided a close market for the products of farm and pasture, and this in turn intensified the need for a medium of exchange.

Gold was first discovered in the West in 1842 by a Spanish shepherd, Francisco Lopez. He was digging for wild onions with a knife near what is now Los Angeles when he discovered placer gold washed down the Santa Feliciana Canyon. However, the unlettered shepherd mistakenly believed the gold to have been accidentally chipped from gold bearing ore, and the Spanish had no interest in hardrock mining.

The Spaniards had for centuries dreamed of stripping the gold from the legendary Cibola and its mystical Seven Cities of Gold. When this dream never materialized, they turned to the pursuits normal in their homeland. The Spaniards had been in California for 300 years and had peopled the land, built missions to extend their religious faith to this new domain, and tamed and grazed the fertile valleys. So the 1842 discovery of gold went unheralded, and California's precious mineral wealth remained unexploited for another 6 years.

On January 24, 1848, a man from the Mormon Battalion originally recruited for the Mexican War, James W. Marshall, was digging a sawmill race for his employer, John Sutter, on the American River near Coloma, California. Although Marshall recognized that the glittering metal which appeared in the water was gold, he first tried to keep his discovery secret. He did not want to interrupt the work of the laborers at Sutter's mill, and he understood that the lure of great riches from gold mining would bring all other work to a halt.

As miners swarmed into the West, other discoveries of precious metal were made, and the great gold and silver mining era began. Just across the mountains to the east the Comstock Lode was discovered at Virginia City, Nevada. Soon gold was found by prospectors in many places in the West.

The placer gold which could be easily separated from river bottom gravel played out quickly, and gold mining became more difficult as the need grew to separate the yellow metal from complex rock structures. Under these conditions, two classes of mining men appeared on the scene: The pick and shovel hardrock miners who used their brawn, and their semi-educated but experienced employers who had learned the business on the Com-

stock or in California. Mining became a business instead of an individual enterprise.

Many of the mines were opened in areas remote from transportation and shipping facilities, so the company store became a necessity in those isolated mining locales. The company store as it was operated in some eastern coal mines had gathered a reputation of corruption. It is true that unscrupulous mine operators virtually enslaved the laborers by charging inflated prices or sold a store franchise to an entrepreneur who did the same thing.

In the West, however, the company store was a different picture. Mine operators accepted the responsibility of providing a supply store so as to keep their mines operating at full capacity. The recovery of the vast wealth locked in the earth below the surface far outweighed the small gains to be realized from operating a supply store.

Mine labor at first was scarce. As reports filtered back east, Irish and Cornishmen began to move west to the new mining opportunities. After a time, they began to organize in an effort to get better wages and safer working conditions.

The Comstock Lode began producing untold wealth in 1859, and by 1863 the underground miners had organized a Miners Protective Association at Virginia City. A year later they demonstrated for better wages, and the first strike was recorded there in 1869.

In the history of labor strife in western mines, the use of explosives to win a point was not uncommon. The mine operators sought to prevent this by issuing "scrip." These were privately milled coins which were recognized as the only acceptable authority for drawing explosives from the company.

The Consolidated Fuel Company at Hiawatha, Utah, was still using "scrip" for explosives control when the company was taken over by the U.S. Fuel Company in 1912. A number of the old coins were found in the company safe.

This use of private coinage has since been replaced by modern business organization, and the coins have no value except for collectors. Max Robb, who is general manager of U.S. Fuel, contributed a few of the coins to the Smithsonian Institution recently. Eventually, through the work of Dr. John N. Hoffman, Associate Curator for Mining at the Smithsonian's Museum of Science and Technology, the coins may be put on historical display.

Thus an almost vanished vignette of western mining history has been preserved for public understanding and enjoyment. □

BEAR CREEK— A MAVERICK WATERSHED

Impact of men and society create ecological imbalance

WHAT'S HAPPENING to the river below Bear Creek these days?

Have the rills and gullies in those rugged canyons of the Crooked River watershed—a result of soil erosion—always been there?

Many people are wondering about the murky color of the river which is clouded except in the winter months. Ranchers whose living comes from the land are worried. The business community of Prineville has noticed a decline in the number of recreation visitors to the river below the dam on the Prineville Reservoir.

The Bureau of Land Management, the U.S. Forest Service, water users, and fishermen are concerned.

The Bureau of Reclamation and irrigation districts are concerned about the rate of silting and the life span of the reservoir.

What's happening to the river? Bear Creek has become a maverick through an ecological imbalance that is becoming typical of watersheds which react to the impact of men and society on the land.

Water is a vital resource of the public lands. The quality of water is the key to the condition of a watershed, and so the health of the Nation's watersheds is a primary concern to all public land managers.

BLM is known for its stewardship of 451 million acres of public lands in the Western States. Less well

known, however, is the fact that the water resources of those lands include 63 thousand miles of river and streams, and some 10 million surface acres of lakes and reservoirs. Recently BLM sent its soil scientists and source people into the hills in a systematic study of conditions of the watersheds of the public lands.

In Central Oregon, the watershed showing the most signs of distress lies in the high desert buttes and canyons of Bear Creek in Crook County. The drainage enters the Crooked River system at the Prineville Reservoir, a lake 15 miles in length lying behind an earthen dam constructed by the Bureau of Reclamation in 1960.

The Bureau has been aware of the frailty of the watershed for some time. The signs of distress are everywhere. The channels of all watercourses show damage by floods; gullies have replaced quiet streams; rills appear on slopes where none were seen before. Ranchers are worried, and sportsmen go elsewhere to fish because of the muddiness of the water below the dam.

Although much damage is occurring to riverbanks without streamside vegetation, spring flooding often amounts to an early irrigation, which in years past was part of the benefits of ranching along the river. The real losses are occurring upstream in the cutting that is taking place on stream banks. The widening of rills and gullies is an apparent result of the watershed's increased

By JAY A. MOBERLY
Chief, Division of Administration (Retired)
BLM District Office, Prineville, Oregon

(Author Moberly retired June 16 after 39 years of Federal service. His article is based on his reports of the Bear Creek drainage problem, and on several newspaper articles he wrote this spring.)



In the early fall, the river is the color of chalk . . . but on a winter's day the stream is almost clear, and you can see the trees reflected in the water.



inability to absorb the normal rain and snowfall in the area.

While Bear Creek is not the only culprit in the Hooked River drainage, it was logical that a more intensive study, reserved for this class of watershed, should be concentrated there.

The urgency for technical information on water quality in this watershed has brought the Bureau of Reclamation, Oregon State University, the State Game Commission, Forest Service, and BLM into a cooperative study to pinpoint which streams are the most serious contributors to the water problem.

In the study of this watershed, the soil scientists have begun to ask some searching questions about all land management practices and the changes that have been gradually taking place during the past half century.

The first step was an inventory of what actually exists in this cluster of high desert buttes, mesas, and deep canyons. What soils are out there? What plants grow upon them; what are the dominant species; which ones contribute to an erosive condition? And how does this watershed compare to others?

Other subjects under study include an investigation of normal geologic erosion, and the accelerated erosion of recent years.

Even to the untrained eye, it is apparent that several major changes have been taking place during the past 50 years. For one thing, there are more juniper trees.

Small groves held in check by ecological forces for centuries have found themselves released from their

prison and have scattered their seeds in ever-widening forests. Something has triggered this population explosion.

Was it the arrival of the farmer and the stockman whose animals scattered and planted the seeds? This could be true, since the berries are eaten by many animals and birds.

Or was it the dense stands of bunchgrass, which once covered central Oregon, that held the juniper in check? However, the fact that today acres of well managed grasslands are being invaded by juniper tend to dispute this as the total cause. Still others say protection from natural wildfire has played a part in the increase of juniper cover.

One theorist asks, "How long has the robin been a resident bird of Central Oregon?" Thousands of these



The increasing invasion of juniper is evident.



Camp Creek in the upper Crooked River suffers from the same environmental change as Bear Creek.

cheerful birds now live year-round in the woodlands. Have they always been here? Perhaps not. So it is quite possible that the robin may be a new carrier of these seeds, and increases the range of the tree.

The old timers recall that the rills and gullies in Bear Creek's canyons were mere ditches when they first settled there. Then one winter's day the water came down with such force that soil, trees, fences, and stock were swept away. The gullies remained behind.

The March 1952 flood, well remembered by residents along Ochoco Creek and the Crooked River, was started on its way by spring rains on melting snows. Then there were floods in December 1964, June 1969, and again in January 1971. These all caused widespread destruction and loss of topsoil. Such floods seem to be coming more often lately.

Thunderheads have swept eastward across the dry plains from the Cascades for centuries in the same storm patterns, waiting for the sudden updrafts of air and changing elevations of the Bear Creek buttes to trip their load of water onto the hills below.

Out of the study being made by BLM, certain facts are becoming apparent, the principal one being that the juniper reduces the ability of the soil to absorb water.

A cross section of soil observed in a typical juniper

stand shows a dense root system which commonly extends for a hundred feet from the trunk of each tree. Such vigorous roots rob moisture and nutrients needed by shrubs and grasses. Once the lower plants are gone, the bare ground is at the mercy of the water. Most often, the worst erosion occurs in these juniper stands.

These desert evergreens are somewhat intolerant of other plant life within their canopy. Once they become densely established, they tend to dominate any understory plants, which are needed to maintain the ecological balance.

Also, heavy use of palatable plants by livestock and game gives the juniper the upper hand. Good evidence of this is found in fields once cleared by homesteaders. These fields are now reverting to their earlier state, shutting out range which once supported game and domestic animals.

The increase of juniper is a predominating influence in disturbing the stability of Bear Creek. BLM found 10 percent more bare ground exposed than in other comparable areas. In more stable watersheds, about half of the ground surface is covered with live and dead plants, but Bear Creek lands have a declining 40 percent plant cover and are in trouble, especially since a quarter of this cover is live juniper. Restoration



Pace of erosion grows inexorably.

small perennial plants and other live and dead plant material is the key to reducing erosion on such fragile watersheds.

The wide variety of soils in Bear Creek leads to further complications. Each soil type varies in its capability to absorb moisture. Each varies in its ability to grow vegetation and each varies in its erodibility.

One of the most fragile soils lies upon barren extrusions of the John Day formation. These soils are infertile and do not support much vegetation. Other soils

that are more fertile are now supporting dense stands of junipers with a high amount of bare soils between the trees.

These unprotected soils erode rapidly, and are the primary cause of the murky condition of the Crooked River. These small soil particles stay in suspension for long periods of time. They remain in suspension at low depths in Prineville Reservoir and then are discharged into the river during the summer season. But as time passes, the clay settles and the river becomes nearly clear during the winter season.

On the Bear Creek drainage it boils down to this: until there are more shrubs and grass, the changes taking place in Crooked River country will not be stopped, but will be accelerated.

Much can be done to correct the deterioration of the Bear Creek watershed. Restoration of the right kind of perennial vegetative cover would be a tremendous but rewarding task. Some efforts have been made by private landowners and BLM, but the forces set into motion are so accelerated that resource managers are hard-pressed to change the present trends. Hopefully, out of the public land watershed studies there will come a national program to bring such maverick watersheds under control. □



crumbling of the stream bank and the fallen tree on Bear Creek are further evidence of erosion.

THE LOST FOREST

*Patchwork series of timbered islands grow
in sagebrush desert*



HOW DOES an entire forest get “lost”? That’s what scientists and researchers want to know about an isolated stand of Ponderosa pine which Lake County, Oregon, residents call the Lost Forest.

The 9,000 acre forest isn’t really “lost” at all because many people know where it is. Scientists call it “dis-junct,” which means it is growing in an unexpected location.

This isolated stand of Ponderosa pine is in the high desert country of eastern Oregon, about 40 miles away from the closest stand of pine trees. Naturalists believe the forest to be the last remaining relic of a much larger forest from the past.

It continues to live in a desert area having a rainfall level of only 10 inches annually, far below the minimum requirements for this particular tree species. The forest

is actually a patchwork series of timbered islands in an area completely surrounded by sagebrush desert. Small sand dunes dot the east and west, and extensive sand dunes form the southwest border.

Foresters from the Bureau of Land Management and interested naturalists have been observing the forest for the last 20 years. Their studies indicate that the stand is not capable of perpetuating itself because of the low rainfall and the extremes of temperatures throughout the year.

The uniqueness of the forest as a scientific phenomenon has caused BLM to take steps to protect the area for further study. An application has been filed to withdraw the area from all forms of appropriation under the public land laws, including the mining laws. No timber cutting is allowed.

Withdrawal will give scientists a chance to explore the mysteries of this forest which, by all natural laws, shouldn’t be there. Scientists have taken some seeds from the area for genetic study. The area will be protected under a management plan to be developed by the Bureau’s Lakeview District. □

By **MARK GUIDRY**

Public Information Specialist
BLM State Office, Portland, Oregon



A MATTER OF PERSPECTIVE

Desert displays beauty, color, plants, and wildlife

FROM THE HIGHWAY, Malm Gulch looks desolate, dry, dead. Only a small, neatly lettered sign with the 2-word title marks the turnoff 12 miles south of Challis, Idaho, on State Highway 93. The big tires of the 4-wheel drive vehicle splash dust as they leave the pavement.

Several hundred yards west of the turnoff lies the swift Salmon River, its banks already dotted with early-rising fishermen who have wet their lines in an optimistic search for a fresh breakfast.

Just east of the turnoff on public lands stands a State Fish and Game Department trailer. A roadside sign

invites fishermen to report their luck and be recorded in the count of recreationists which the State officials are keeping. The occupants of the trailer are just rising as the 4-wheel lumbers by.

The goal to the east is a look at several fenced enclosures of petrified redwood stumps, strangely out of place in this dry inland desert so many hundreds of miles from the Pacific sea coast where redwoods flourish as a result of the moisture laden winds.

Four miles up the gulch the big carryall vehicle grinds its way in low gear. A gully washer of heroic proportions, the kind that occurs about every 25 years, has strewn the track with gravel and rocks. Further on, the vehicle crosses an intersecting gully in which a trickle of water still wends its way to lower elevations.

Then even the 4-wheel drive can go no further, and the ¼-mile trudge begins up the gulch to the redwood stumps. From the road, even from the lurching vehicle, the landscape has seemed drab and dead. But when

By GRANT K. HARBOUR

Challis-Mackay Resource Area Manager
BLM District Office, Salmon, Idaho



Young rattler sunning itself.



Cactus blooms provide a spot of color.

seen from a man's walking pace, the colors are suddenly brighter and the seemingly dead landscape comes alive for those with watching eyes.

A butterfly flits across a carpet of desert wildflowers whose yellow blossoms are vivid against the pale green of dust-washed sagebrush. Here and there a tiny red bloom ventures its face above the surface of the lichen-dotted rocks and boulders that are mottled in yellow, orange, brown, and dull black.

One of the far-ranging hikers who elected to walk the ridge reports a horse grazing. A small bird is alarmed by the approach of visitors and takes wing, silhouetting

itself briefly against the gray morning sky.

The rising sun begins to clear the hills that hold Malm Gulch, and sunlight begins to fill the shadows of the narrow, water-cut trail. One minute the sagebrush is a muted pale olive color, then the sunlight is strongly on the plant and the color deepens to a richer hue.

The trail turns, and here a sagebrush plant clings tenaciously to the fragile soil at the gulch's edge. The torrent of water that poured down the trail a few days before has exposed a root system that has reached downward and outward in search of life-sustaining moisture.



Hiking is tough but rewarding for beauty lovers.



Gully washer almost uprooted the sagebrush plant.

At another place the flow of water has cut so deeply that the burrow entrance of a desert rodent now is 3 feet above the surface instead of at ground level. A chipmunk scampers down the trail, leaves the gully, and dodges up the hillside.

The fenced redwood remains loom up finally. Inside one of the enclosures a rattlesnake suns itself in the warming morning rays. The reptile is still sleepy, and efforts to get it to sound its rattles with a poking stick draw only a lackadaisical response. Around the corner the stump is the skeleton of another chipmunk, perhaps the scampering chipmunk's mate which met an unknown death.

Others have been here before. Rockhounds have lined up specimens on a large boulder, intending to pick them up on the way back, but the trail ahead yielded better samples, and so the next collector to wander up the gulch can accept the bounty or select his own from Nature's treasure trove.

The desolate looking desert gulch has proved to be alive with beauty, color, hardy living plants, and wildlife. What appeared from the highway to be barren desert was but a matter of perspective. □



Some desert animal's home.

How Old Are the Petrified Redwoods?

The majestic coastal redwood which grows in a narrow belt along the western seaboard is known to be a long lived species. By boring into the heart of a tree and counting the annual growth rings it has been determined that some of the coastal redwoods still standing were alive when Christ walked the earth.

The redwoods grow only some 30 miles inland; a popular saying is that redwoods will be found "as far as the fog goes," meaning as far inland as coastal fog penetrates.

The Idaho petrified redwoods have not actually been dated, but authorities report petrified redwood remains found in Idaho from geologic times as far apart as the Jurassic Period (155 million years ago) to as recently as the Miocene Epoch (30 million years ago).

Because they are known to need much moisture of the kind borne by coastal fogs, the Idaho redwoods probably grew in a geologic time when that area was a marine coast before the western North American mountains were formed in the Pliocene Epoch (12 million years ago).



Fence guards against souvenir collectors at redwood fossil.



Fossilized stump at right almost blends into the scene.



This is a compilation of the most up-to-date information possible on up-coming sales of public lands by State Offices of the Bureau of Land Management. For details of land descriptions, prices, and other information pertinent to sales, you must write the individual State Office concerned. In most cases, there are adjoining land-owners who have statutory preference rights and may wish to exercise them to buy the land. Sales notices will point out, insofar as possible, problems relating to (1) access, (2) adjoining owner preference rights, (3) small-tract sales limitation of one per customer, and other pertinent information. When possible, all sales are scheduled far enough in advance so ample notice can be given in Our Public Lands. Sales listed can be canceled on short notice for administrative and technical reasons. A listing of BLM State Offices with addresses is found on the opposite page.

COLORADO

40 A, identified as C-8076, located 5 miles southeast of Meeker, Colorado, in northwest portion of State. Principal use of land has been and is livestock grazing. Topography moderately to gently sloping, soils mostly shallow, very rocky and silty. No improvements on land. All surrounding land in private ownership, no legal access to sale tract. Appraised \$2,000. Sale in mid-November or later.

IDAHO

40 A, identified as I-3470, 1 mile east, 3 miles north of Middleton, Ada County. Unimproved except for some boundary fencing, power, and telephone lines along county roads. Highest use is for rural homesites and associated agriculture. At continuing sale. Appraised minimum bid \$26,000 plus advertising cost.

80 A, identified as I-2847, overlooking Boise Valley, 2 miles north of Star in Ada County. Deep silt loam soils, elevation 2560-2700 feet above sea level. Appraised \$24,000.

120 A, identified as I-3207, 3 miles north of Star in Ada County. Rolling topography, silt loam soils, good potential for irrigation. Appraised \$15,000.

MONTANA

2 isolated tracts, identified as M 19033, 3.06 acres in Deer Lodge, Montana, 10 miles west of Anaconda. 2 tracts will be sold as one parcel. Previously excluded from patented homestead entry survey for road purposes. 35 feet wide, 3,300 feet and 594 feet long. No legal access. Relatively flat, soils shallow silty loam, gravel sub-soil. Vegetation timber-grass type. Appraised \$900 plus advertising cost. Sale November 30, 1972.

40 A, identified as M 19673, in Phillips County, Mont., 15 miles south of Malta. No legal access. Level to gently rolling. Soils vary from clay over shales and light colored loamy soils to dark colored loamy soils surveyed as a Lohmiller clay loam complex. Vegetation generally grass-brush type. Small portion has been cultivated. No permanent water. Write Montana State Office for costs, other details. Sale Nov. 30, 1972.

2 isolated parcels, identified as M 19821, in Judith Basin County, Mont., 15 miles north of Sanford. Parcel 1 contains 121.01 acres, Parcel 2 80 acres. No legal access. Steep to moderately steep breaks. Shallow clay to clay underlain with shale. Native grass with scattered strips of brush next to ravines. Evidence of sumps containing underground springs. Write Montana State Office for costs, other details. Sale Nov. 30, 1972.

90 A, 3 tracts identified as M 19672 to be sold as 1 parcel in Petroleum County, Mont., 10 miles south of Winnett. No legal access. 40 A level to moderately level, balance steep to hilly. Shallow, gravelly clay to moderately deep gravelly loam. Historical use: Livestock grazing and hay production; private irrigation ditch crosses land. No surface water. Write Montana State Office for costs, other details. Sale Nov. 30, 1972.

155.1 A, identified as M 17134, in Dawson County, Mont., 16 miles northwest of Glendive. No legal access. Nearly all moderately rough breaks. Sandy at upper levels, silty clay at lower levels. Variety of native grasses, shrubs, and forbs. No water. Write Montana State Office for costs, other details. Sale Nov. 30, 1972.

2 40 A parcels, identified as M 17570 (ND), in Williams County, N.D., 16 air miles southwest of Williston. No physical access to either; section line access in either would be impractical because of adverse terrain. Broken ground characterized by steep, rough slopes eroded away into barren

banks and buttes. Shallow type soils ranging from sandy loams to coarse gravel overlying clay formations. Grasses and low shrubs. Exposed clay banks barren. No water. Write Montana State Office for costs, other details. Sale Nov. 30, 1972.

OREGON

39.60 A, identified as OR 8587, approximately 30 miles northeast of Burns, 12 miles northwest of Drewsey. Access via county road which forms eastern boundary of tract. Vegetation mainly native grasses, approximately $\frac{1}{4}$ suitable for production of alfalfa or small grains. Appraised \$1,750. Sale after Feb. 1, 1973.

60 A, identified as OR 8451, approximately 125 miles south of Burns, 8 miles north of Denio, average elevation 4,100 feet. Sale consists of 4 separate parcels, 3 of 10 A each, 1 of 30 A, all within same general vicinity. Access to larger parcel by gravel county road. Soil poorly drained, tends to be alkaline. Vegetative cover greasewood, rabbit brush, salt grass. Appraised \$2,300. Sale after Feb. 1, 1973.

NEW MEXICO

2 tracts 10 miles west of Estancia, Torrance County, New Mexico. Tract 1 identified as Lot 1, Sec. 1, T. 6 N., R. 6 E., 27.18 acres, legal and physical access via bladed county road. Tract 2 identified as Lot 5, Sec. 6, T. 6 N., R. 7 E., 27.51 acres, no legal access, poor physical access. Rough, rocky, hilly country, dense cover of pinion-juniper, a few scattered pines. Utilities not readily available. Appraised \$75 per acre. Sale in November

1972. Tracts ranging from .25 to 12.36 acres, 30 miles southeast of Albuquerque, New Mexico, in extreme southeast corner of Bernanillo County. Pinion-juniper hills, rocky, sandy soil, fair cover of mixed native grasses. No legal and no vehicular access across country. No utilities readily available. Appraised \$100 per acre. Sale in November 1972.

4 tracts, each 80 acres, 13 to 14 aerial miles east of Anthony, New Mexico, $3\frac{1}{2}$ miles northwest of Newman, New Mexico, 1 mile north of the New Mexico-Texas State Line. Also in southeast portion of Chaparral, New Mexico. Relatively level terrain, moderately deep, sandy loam soils, fair to good vegetal cover. Adjoining lands have been subdivided into small acreage tracts, which is also the highest and best use of these properties. Electricity and telephone services are available. Legal and good vehicle access from a dedicated road across south side of each tract. Appraised \$300 per acre or \$24,000 each. Sale in November 1972.

WASHINGTON

40 A, identified as OR 8167 (Wash), 4 miles northwest of Davenport, 2 miles west of State Highway 22. Isolated from other public lands. Steep and broken except for 5 A in northeast corner. Average elevation 2,200 feet. Gravelly, shallow soils with rock outcropping. Vegetation sparse, mainly bunch grass. No water, no legal access. Only 5 A suitable for grazing. Appraised \$1,000. Sale after Feb. 1, 1973.

12.5 A, identified as OR 5703 (Wash), 8 miles northwest of Sunnyside. Traversed by irrigation ditch, 3 A south of ditch suitable for cultivation, remaining mostly suitable for grazing. Irrigation south of ditch has been grain crops, north of lateral

vegetation dryland grasses and sagebrush. No legal public access. Appraised \$1,250. Sale after Feb. 1, 1973.

7.5 A, identified as OR 8534 (Wash), 16 miles northwest of Sunnyside. Fairly level. Soil fairly fine at surface, hardpan at moderate depths. Subject to wind erosion. Must be irrigated before it can be successfully cropped. No legal public access. Appraised \$750. Sale after Feb. 1, 1973.

10 A, identified as OR 8533 (Wash), 25 miles southeast of Yakima, 16 miles northwest of Sunnyside. Fairly level, elevation 1,300 feet. Bordered on north and west by privately owned lands, on other side by public lands administered by BLM. No legal public access. Soil is Burke Loam, needs irrigation before successful cropping. Appraised \$1,400. Sale after Dec. 1, 1972.

BUREAU OF LAND MANAGEMENT

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Anchorage, Alaska
99501
516 Second Ave.
Fairbanks, Alaska
99701

ARIZONA:

Federal Bldg.,
Room 3022
Phoenix, Ariz. 85025

CALIFORNIA:

2800 Cottage Way,
Room E-2841
Sacramento, Calif.
95825
1414 University Ave.
Riverside, Calif.
92502

COLORADO:

1600 Broadway
Room 700
Denver, Colo. 80202

IDAHO:

Federal Bldg.,
Room 334
550 W. Fort St.
Boise, Idaho 83702

MONTANA (N. Dak., S. Dak.):

Federal Bldg.
316 North 26th St.
Billings, Mont. 59101

NEVADA:

Federal Bldg.,
300 Booth St.
Reno, Nev. 89502

NEW MEXICO (Okla.):

Federal Bldg.
P.O. Box 1449
Sante Fe, N. Mex.
87501

OREGON (Washington):

729 Northeast
Oregon St.
P.O. Box 2965
Portland, Oreg. 97208

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Federal Bldg.
125 South State St.
P.O. Box 11505
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84111

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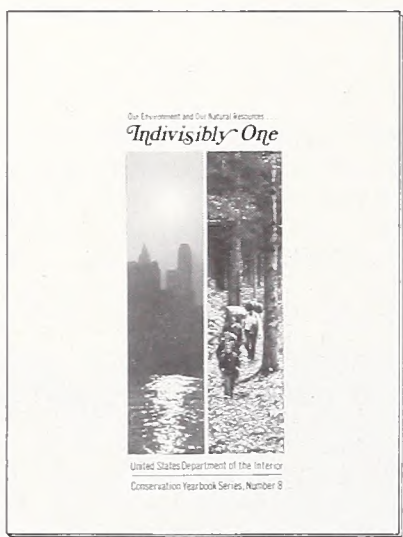
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